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ABSTRACT OF THE DISCLOSURE

A boron carbide solid state neutron detector and method of using the detector is disclosed, wherein the detector includes a layer of boron carbide wherein the boron carbide layer is an electrically active part of the detection device, a sensing mechanism inherent to said boron carbide layer, wherein the sensing mechanism detects changes in the boron carbide layer caused by the interception of neutrons and a monitoring device coupled to the sensing mechanism.

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